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FIGURE 1

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FIGURE 2

O.mykiss Ten M3

R.danio Ten M3

M.musculus Ten M3

H.sapiens Ten M3

SISGVQQEVTRQAKAFLSFERMPEIQLSRRRSNREKPWLWFATAKSLIGK
 SISGVQQEVMRQAKAFLSFERMPEIQLSRRRSREKPWLWFATVKSLIGK
 PIEGVQQOVARQAKAFLSLGKMAEVQVSRRKAGAEQSWLWFATVKSLIGK
 PIEGVQQOVARQAKAFLSLGKMAEVQVSRRRAGGAQSWLWFATVKSLIGK

O.mykiss Ten M3

R.danio Ten M3

M.musculus Ten M3

H.sapiens Ten M4

GVMLAVT QGRVVTNALNIANEDCIKVAVLNNAFYLEDLHFTVEGRDTH
 GVMLAITSKGQVATNALNIANEDCIKVWTVLNNAFYLEDLHFTVEGRDTH
 GVMLAVS QGRVQTNVLNIAEDCIKVAVLNNAFYLELNHFTIEGKDTH
 GVMLAVS QGRVQTNVLNIAEDCIKVAVLNNAFYLELNHFTIEGKDTH

O.mykiss Ten M3

R.danio Ten M3

M.musculus Ten M3

H.sapiens Ten M3

YFIKTSLPESDLGALRLTSGRKLENGVNNTVSQSTTVVNGRTRRFADVE
 YFIKTSLPESDLGALRLTSGRKLENGVNNTVSQSTTVVNGRTRRFADVE
 YFIKTTPESDLGTLRLTSGRKALENGTNVTVSQSTTVVNGRTRRFADVE
 YFIKTTPESDLGTLRLTSGRKALENGTNVTVSQSTTVVNGRTRRFADVE

O.mykiss Ten M3

R.danio Ten M3

M.musculus Ten M3

H.sapiens Ten M3

LQYGALALHVRYGMLDEEKARVLEQARQKALSSAWSREQQRVREGEEGV
 LQYGALALHVRYGMLDEEKARVLEQARQRALSSAWAREQQRVRDGEEGV
 MFGALALHVRYGMLDEEKARILEQARQRALARAWAREQQRVRDGEEGA
 MFGALALHVRYGMLDEEKARILEQARQRALARAWAREQQRVRDGEEGA

O.mykiss Ten M3

R.danio Ten M3

M.musculus Ten M3

H.sapiens Ten M3

RLWTEGEKRQLLSGRKVLGYDYYVLSIEQYPELADSANNIQFLROSEIG
 RLWTEGEKRQLLSGKVLGYDYYVLSVEQYPELADSANNQFLROSEIG
 RLWTEGEKRQLLSAGKVQGYDYYVLSVEQYPELADSANNIQFLROSEIG
 RLWTEGEKRQLLSAGKVQGYDYYVLSVEQYPELADSANNIQFLROSEIG

KR (SEQ.ID.NO.3)

KR (SEQ.ID.NO.12)

KR (SEQ.ID.NO.6)

KR (SEQ.ID.NO.10)

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FIGURE 3

Mouse Teneurin 1	MILGIQCELOKQLRNFISLDQLPMTPOYNEGRCLEGGKQPRFAAVPSVFG
Mouse Ten eurin M2	LITGVQQTTERHNOAFLALEGQVITKKLHAS IREKAGHWFATTTPIIG
Mouse Ten eurin M3	PIFGVQQVARQAKAFLSL GKMAEVQVSRRKAGAEQSMLWFATVKSLIG
Mouse Ten eurin M4	SILGVQCEVQKQLKAFVTLERFDQLYGSTITSQQAPETKKFASSGSIFG
Mouse Teneurin 1	KGIKFAIKEGIVTADIIGVANEDSRRLAAILNNAHYLENLHFTIEGRDTH
Mouse Teneurin 2	KGIMFAIKEGRVTTGVSSIASEDSRKVASVLNNAYYLDKMHYSIEGKDTH
Mouse Teneurin 3	KGVMLAVSQGRVQTNVLNIANECDIKVAAVLNNAFYLENLHFTIEGKDTH
Mouse Teneurin 4	KGVKFALKDGRVTTDIISVANEDGRRIAAILNNAHYLENLHFTIDGVDT
Mouse Teneurin 1	YFIKLGSLEEDLVIIGNTGGRILENGVNNTVSQMTSVLNGRTRRFADIQ
Mouse Teneurin 2	YFVKIGAADGDLVTLGTTIGRKVLESGVNNTVSQPTLLVNGRTRRFTNIE
Mouse Teneurin 3	YFIKTTTPESDLGTLRLTSGRKALENGINVTSQSTTVVNGRTRRFADVE
Mouse Teneurin 4	YFVKPGPSEGDLAILGLSGGERTLENGVNNTVSQINTML
Mouse Teneurin 1	LQHGALCFNIRYGT VEEKNHVLEMARQRAVAQAWTQEQRRLQEGE
Mouse Teneurin 2	FQYSTLLSIRYGLTPDTLDEEKARVLDQAGQRALGTAWAKEQQKARDGR
Mouse Teneurin 3	MQFGALALHVRYGMT LDEEKARILEQARQRALARAWAREQQVRVDGE
Mouse Teneurin 4	IQLQYRALCLNTRYGT TVDEEKVRVLELARQRAVRQAWAREQQRLREGE
Mouse Teneurin 1	EGTRVWTEGEKQQLLGTGRVQGYDGYFVL SVEQYILELSDSANNIHFMRQS
Mouse Teneurin 2	EGSRLWTEGEKQQLLSTGRVQGYEGYYVLPVEQYPELADSSNIQFLRQN
Mouse Teneurin 3	EGARLWTEGEKRQLLSAGKVQGYDGYVLSVEQYPELADSANNIQFLRQS
Mouse Teneurin 4	EGLRAWTDGEKQQVLNTGRVQGYDGFVTSVEQYPELSDSANNIHFMRQS
Mouse Teneurin 1	EIGRR (SEQ. ID. NO. 4)
Mouse Teneurin 2	EMGKR (SEQ. ID. NO. 5)
Mouse Teneurin 3	EIGKR (SEQ. ID. NO. 6)
Mouse Teneurin 4	EMGRR (SEQ. ID. NO. 7)

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FIGURE 4

Human Ten M1	TILGIQCELOKQLRNFISL	D QLPMTPRYNDGRCLEGGKQ	PRFA
Human Ten M2	LITGVQQTTERHNQAFMALE	GQV ITKKLHASIREKAGHW	FA
Human Ten M3	PIFGVQQVARQAKAFLSLGKMAEVQV	SRRAGGA QS WLW	FA
Human Ten M4	SILGVQCEVQKQLKAFVTLER	FD QL YGSTITSCLQAPKT	KKFA
Human Ten M1	AVPSVFGKGIGKFAIKDGIVTADIIGVANEDSRRLAAILNNAHYLENLHFT		
Human Ten M2	TTTPPIIGKGIMFAIKEGRVTTGVSSIASEDSRKVASVLNNAFYLDKMHYS		
Human Ten M3	TVKSLIGKGVMLAVSQGRVQTNVNLIANEDCIKVAAVLNNAFYLENLHFT		
Human Ten M4	SSGSVFGKGKVFKALKDGRVTDIISVANEDGRRVAAILNNAHYLENLHFT		
Human Ten M1	IEGRDTHYFIKLGSLEEDLVLIGNTGGRILENGVNNTVSQMTSVLNNGRT		
Human Ten M2	IEGKDTHYFVKIGSADGDLVTLGTTIGRKVLESGVNNTVSQPTLLVNGRT		
Human Ten M3	IEGKDTHYFIKTTPESDLGTLRLTSGRKALENGINVTVSQSTTVVNGRT		
Human Ten M4	IDGVDTHYFVKPGPSEGDLAILGLSGGRRTLENGVNNTVSQINTVLSGRT		
Human Ten M1	RRFADIQLQHGALCFNIRYGT	VEEKNHVLEIARQRAVAQAWTKEQ	
Human Ten M2	RRFTNIEFQYSTLLSIRYGLTPDTLDEEKARVLDQARQRALGTAWAKEQ		
Human Ten M3	RRFADVEMQFGALAHVRYGMT	LDEEKARILEQARQRALARAWAREQ	
Human Ten M4	RRTYTDIQLQYGALCLNTRYGT	LDEEKARVLELARQRAVRQAWAREQ	
Human Ten M1	RRLOEGEEGIRAWTEGEKQQLLSTGRVQGYDGYFVLSVEQYIELSDSANN		
Human Ten M2	QKARDGREGSRLWTEGEKQQLLSTGRVQGYEGYYVLPVEQYPELADSSSN		
Human Ten M3	QRVRDGEEGARLWTEGEKROQLLSAGKVQGYDGYVLSVEQYPELADSANN		
Human Ten M4	QRLREGEELRAWTEGEKQQVLSTGRVQGYDGFFVI SVEQYPELSDSANN		
Human Ten M1	IHFMRQSEIGRR (SEQ. ID. NO. 8)		
Human Ten M2	IQFLRQNEMGKR (SEQ. ID. NO. 9)		
Human Ten M3	IQFLRQSEIGRR (SEQ. ID. NO. 10)		
Human Ten M4	IHFMRQSEMGR (SEQ. ID. NO. 11)		

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FIGURE 5**Human TCAP-1**

cag cag ctt ttg agc act ggg cg^g gta caa
ggt tac gat ggg tat ttt gtt ttg tct gtt
gag cag tat tta gaa ctt tct gac agt gcc
aat aat att cac ttt atg aga cag agc gaa
ata ggc agg agg taa

(SEQ.ID.NO.76
+stop codon)**Human TCAP-2**

cag cag ctt ctg agc acc ggg cg^g gt^g caa
gg^g tac gag gga tat tac gt^g ctt ccc gt^g
gag caa tac cca gag ctt gca gac agt agc
agc aac atc cag ttt tta aga cag aat gag
atg gga aag agg taa

(SEQ.ID.NO.84
+stop codon)**Human TCAP-3**

cg^g cag ctg ctg agc gcc ggc aag gt^g cag
ggc tac gac ggg tac tac gta ctc tcg gt^g
gag cag tac ccc gag ctg gcc gac agc gcc
aac aac atc cag ttc ctg cgg cag agc gag
atc ggc agg agg taa

(SEQ.ID.NO.92
+stop codon)**Human TCAP-4**

cag cag gt^g ctg agc aca ggg cg^g gt^g caa
ggc tac gac ggc ttt ttc gt^g atc tct gtc
gag cag tac cca gaa ctg tca gac agc gcc
aac aac atc cac ttc atg aga cag agc gag
atg ggc cg^g agg tga

(SEQ.ID.NO.100
+stop codon)**Mouse TCAP-1**

cag cag ctt ttg ggc acc ggg agg gt^g cag
gg^g tat gat ggg tat ttt gtc ttg tct gtt
gag cag tat tta gaa ctt tca gac agt gcc
aac aat att cac ttc atg aga cag agt gaa
ata ggc agg agg taa

(SEQ.ID.NO.44
+stop codon)

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FIGURE 5 (CONT'D)**Mouse TCAP-2**

```
cag caa ctc ctg agc acg gga cgg gta caa
ggt tat gag ggc tat tac gta ctt ccg gtg
gaa cag tac ccg gag ctg gca gac agt agc
agc aac atc cag ttc tta aga cag aat gag
atg gga aag agg taa
```

(SEQ.ID.NO.52
+stop codon)**Mouse TCAP-3**

```
cgg cag ctg ctg agc gct ggc aag gtg cag
ggc tac gat ggg tac tac gta ctg tcg gtg
gag cag tac ccc gag ctg gct gac agt gcc
aac aac atc cag ttc ttg cga caa agt gag
atc ggc aag agg taa
```

(SEQ.ID.NO.60
+stop codon)**Mouse TCAP-4**

```
cag cag gtg ctg aac acg ggg cgg gtg caa
ggc tac gac ggc ttc ttt gtg acc tcg gtc
gag cag tac cca gaa ctg tca gac agc gcc
aac aat atc cac ttc atg aga cag agc gag
atg ggc cga agg tga
```

(SEQ.ID.NO.68
+stop codon)**Zebrafish TCAP-3**

```
agg cag ttg ctc agc tct ggg aag gtg ctg
ggt tac gat ggt tac tat gta cta tca gtg
gag caa tac cct gaa ctg gcc gac agt gcc
aac aat gtc cag ttc ttg agg cag agt gag
ata ggg aag agg taa
```

(SEQ.ID.NO.28
+stop codon)**Zebrafish TCAP-4**

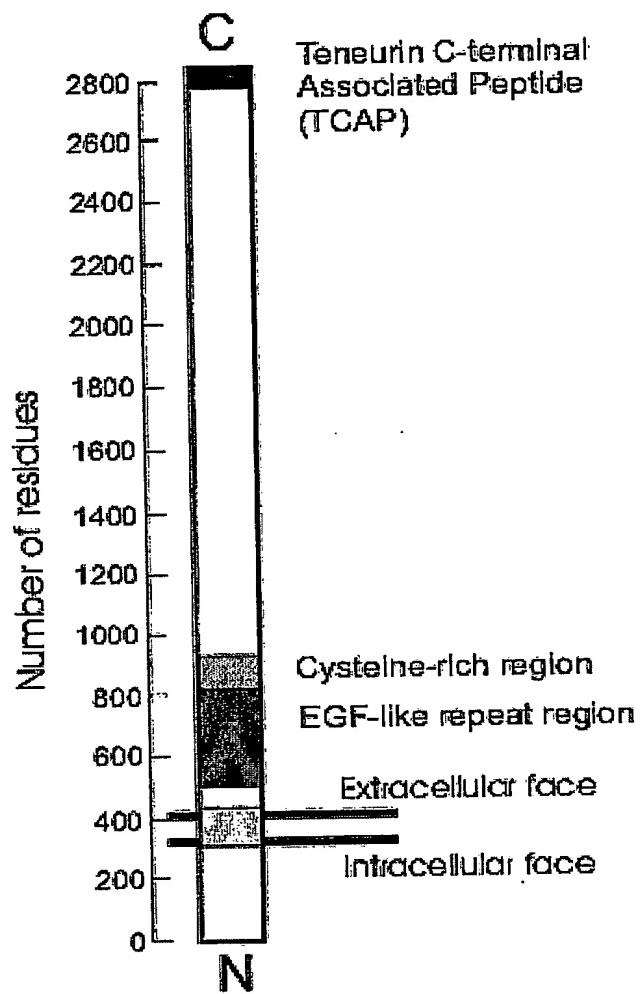
```
cag cag ctc cta agc tct gga cgt gta cag
ggc tac gaa ggc ttc tac ata gta tca gtc
gac cag ttc cca gag ttg act gac aac ata
aat aac gtc cat ttc tgg cga cag act gag
atg gga cgc agg tga
```

(SEQ.ID.NO.36
+stop codon)**Rainbow Trout TCAP-3**

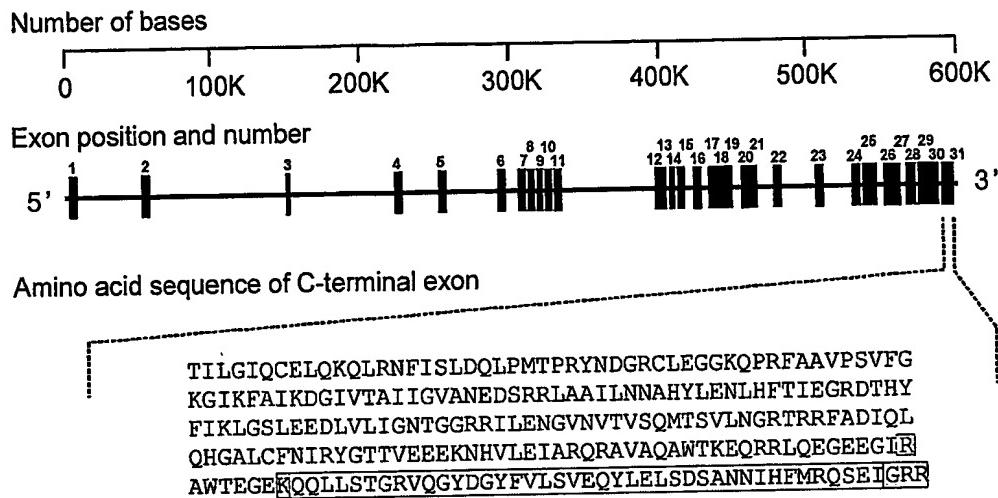
```
5'-agg cag ctg ctg agc ggg agg aag gtt ctg
ggc tac gac ggg tac tac gtc ctc tcc ata
gag cag tac ccc gag cta gca gac tcc gct
aac aac atc cag ttc ctc agg cag agc gaa
ata ggg aag agg taa-3'
```

(SEQ.ID.NO.20
+stop codon)

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FIGURE 6A

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FIGURE 6B



Mammalian TCAP Sequences**Accession Numbers**

human TCAP 1	QLE ¹ STGRVQGYDGYFVL ² SVE ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ STGRVQGYDGYVLP ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ SAGKVQGYDGYVLS ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ STGRVQGYDGYVLS ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸	nm_014253 (SEQ. ID. NO. 69) xm_047995 (SEQ. ID. NO. 78) ak001336 (SEQ. ID. NO. 85) ak056531 (SEQ. ID. NO. 94)
mouse TCAP 1	QLE ¹ INGTGRVQGYDGYFVL ² SVE ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ STGRVQGYDGYVLP ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ SAGKVQGYDGYVLS ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ NTGRVQGYDGYVLS ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸	nm_011855 (SEQ. ID. NO. 37) nm_011856 (SEQ. ID. NO. 76) nm_011857 (SEQ. ID. NO. 53) ab025413 (SEQ. ID. NO. 66)
mouse TCAP 2	QLE ¹ INGTGRVQGYDGYFVL ² SVE ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ NTGRVQGYDGYVLP ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ NTGRVQGYDGYVLS ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ NTGRVQGYDGYVLS ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸	nm_011855 (SEQ. ID. NO. 37) nm_011856 (SEQ. ID. NO. 76) nm_011857 (SEQ. ID. NO. 53) ab025413 (SEQ. ID. NO. 66)
mouse TCAP 3	QLE ¹ INGTGRVQGYDGYFVL ² SVE ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ NTGRVQGYDGYVLP ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ NTGRVQGYDGYVLS ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ NTGRVQGYDGYVLS ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸	nm_011855 (SEQ. ID. NO. 37) nm_011856 (SEQ. ID. NO. 76) nm_011857 (SEQ. ID. NO. 53) ab025413 (SEQ. ID. NO. 66)
mouse TCAP 4	QLE ¹ INGTGRVQGYDGYFVL ² SVE ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ NTGRVQGYDGYVLP ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ NTGRVQGYDGYVLS ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ NTGRVQGYDGYVLS ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸	nm_011855 (SEQ. ID. NO. 37) nm_011856 (SEQ. ID. NO. 76) nm_011857 (SEQ. ID. NO. 53) ab025413 (SEQ. ID. NO. 66)
Rat TCAP 2	QLE ¹ INGTGRVQGYDGYFVL ² SVE ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ NTGRVQGYDGYVLP ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ NTGRVQGYDGYVLS ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ NTGRVQGYDGYVLS ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸	nm_011855 (SEQ. ID. NO. 37) nm_011856 (SEQ. ID. NO. 76) nm_011857 (SEQ. ID. NO. 53) ab025413 (SEQ. ID. NO. 66)

Avian TCAP Sequences

chicken TCAP 1	QLE ¹ INTGRVQGYDGYFVL ² SVE ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ NTGRVQGYDGYVLP ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ NTGRVQGYDGYVLS ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ NTGRVQGYDGYVLS ² E ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸	aj238613 (SEQ. ID. NO. 101) aj279031 (SEQ. ID. NO. 136)
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Piscine TCAP Sequences

Rainbow trout TCAP 3	QLE ¹ SGRKVILGYDGYVYL ² SIE ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ SGRKVILGYDGYVYL ² SIE ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ SGRKVILGYDGYVYL ² SIE ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ SGRKVILGYDGYVYL ² SIE ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸	nm_130968 (SEQ. ID. NO. 21) ab026980 (SEQ. ID. NO. 30) (SEQ. ID. NO. 103)
zebrafish TCAP 3	QLE ¹ SSGGKVLGYDGYVYL ² SIE ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ SSGGKVLGYDGYVYL ² SIE ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ SSGGKVLGYDGYVYL ² SIE ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ SSGGKVLGYDGYVYL ² SIE ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸	nm_130968 (SEQ. ID. NO. 21) ab026980 (SEQ. ID. NO. 30) (SEQ. ID. NO. 103)
zebrafish TCAP 4	QLE ¹ SSGGKVLGYDGYVYL ² SIE ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ SSGGKVLGYDGYVYL ² SIE ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ SSGGKVLGYDGYVYL ² SIE ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸ QLE ¹ SSGGKVLGYDGYVYL ² SIE ³ QYEL ⁴ SDSANN ⁵ IHEM ⁶ R ⁷ OSEI-NH ⁸	nm_130968 (SEQ. ID. NO. 21) ab026980 (SEQ. ID. NO. 30) (SEQ. ID. NO. 103)
Insect Drosophila	ELVQHQGDVDGWN ¹ DIHSTIK ² HYPQLADOPGNVAFQRD ⁴ K	

FIGURE 7A

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FIGURE 7B

Protein name	Species	Truncated peptide	% Identical	% Homolog
Ten-m1/odd Odz1	<i>M. musculus</i>	QLLG TGRVQGYDGYF VLSVEQYLELSDSANNIHFMRQSEI	100	
Teneurin-1	<i>G. gallus</i>	QLLN TGRVQGYDGYF VLSVEQYLELSDSANNIHFMRQSEI	97	97
Odz (odd Oz1/ten-m1) / tenascin M	<i>H. sapiens</i>	QLLSTGRVQGYDGYF VLSVEQYLELSDSANNIHFMRQSEI	97	97
Mouse DOC4-like protein	<i>H. sapiens</i>	QLLSTGRVQGYDGYF VLSVEQYLELSDSANNIHFMRQSEI	97	97
DOCA/Ten-m4 / odd Oz4	<i>M. musculus</i>	QLLN TGRVQGYDGYF VLSVEQYLELSDSANNIHFMRQSEI	85	92
Similar to odd Oz4/ten-m4/ KIAA1302 protein	<i>H. sapiens</i>	QLLSTGRVQGYDGYF VLSVEQYLELSDSANNIHFMRQSEI	85	95
Hypothetical protein/ DKFZp564O0423.1 (fragment)	<i>H. sapiens</i>	QLLSTGRVQGYDGYF VLSVEQYLELSDSANNIHFMRQSEI	85	95
odd Oz/ten-m3/ ODZ3	<i>M. musculus</i>	QLLSAGEVQGYDGYF VLSVEQYLELSDSANNIHFMRQSEI	80	90
Hypothetical protein FLJ10474; FLJ10886; unnamed protein products: AK001336, AK027473, AK001748	<i>H. sapiens</i>	QLLSAGEVQGYDGYF VLSVEQYLELSDSANNIHFMRQSEI	80	90
Putative (AK011924)	<i>M. musculus</i>	QLLSAGEVQGYDGYF VLSVEQYLELSDSANNIHFMRQSEI	80	90
N/A	<i>R. trout</i>	QLLSGCGVILGYDGYF VLSVEQYLELSDSANNIHFMRQSEI	80	90
Ten-m3	<i>D. rerio</i>	QLLSGGKVILGYDGYF VLSVEQYLELSDSANNIHFMRQSEI	75	90
Neurestin alpha	<i>R. norvegicus</i>	QLLSTGRVQGYEGYF VLPVEQYPELADSSSNIQFERQNEV	70	90
Teneurin-2	<i>G. gallus</i>	QLLSTGRVQGYEGYF VLPVEQYPELADSSSNIQFERQNEV	70	90
Ten-m2/ ODZ2/ odd Oz2	<i>M. musculus</i>	QLLSTGRVQGYEGYF VLPVEQYPELADSSSNIQFERQNEV	70	90
Odd Oz/ten-m2/ KIAA1127 protein / hypothetical protein	<i>H. sapiens</i>	QLLSTGRVQGYEGYF VLPVEQYPELADSSSNIQFERQNEV	70	90
Hypothetical protein	<i>H. sapiens</i>	QLLSTGRVQGYEGYF VLPVEQYPELADSSSNIQFERQNEV	70	90
Odd Oz/ten-m2	<i>H. sapiens</i>	QLLSTGRVQGYEGYF VLPVEQYPELADSSSNIQFERQNEV	70	90
Ten-m4	<i>D. rerio</i>	QLLSGGRVQGYEGYF VLSVEQYPELADDDPGNIAFORDAK	57	89
odd Oz/tenascin-like protein/Ten-m gene product	<i>D. melanogaster</i>	ELMOHGDVDGWNGIDIHSHHHYFOLADDPGNIAFORDAK	30	60

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CRF Peptide Family

human CRF	SEEPP I <u>S</u> DIDHTFH I <u>T</u> REVENTE I <u>T</u> RAEQ I <u>AHSNI<u>RTIMEI<u>I</u></u></u>	(SEQ. ID. NO. 104)
human urocortin	DNPST <u>I</u> SDITEHILLRT I <u>I</u> LE I <u>I</u> ARTQS I <u>I</u> ERAEO I <u>I</u> NR I <u>I</u> IFEDS I <u>I</u>	(SEQ. ID. NO. 105)
human urocortin 2	IVL <u>I</u> SD I <u>I</u> PIGILLO I <u>I</u> QI I <u>I</u> LA I <u>I</u> QARARA I <u>I</u> AREO I <u>I</u> ATN I <u>I</u> LLAR I <u>I</u>	(SEQ. ID. NO. 106)
human urocortin 3	FT I <u>I</u> SD I <u>I</u> PTN I <u>I</u> MN I <u>I</u> LN I <u>I</u> AKAKN I <u>I</u> RAQAA I <u>I</u> AN I <u>I</u> ALMAQ I <u>I</u>	(SEQ. ID. NO. 107)

TCAP Peptide Family

human TCAP 1	CO I <u>IISTGRI<u>IYQYDGYEVISI<u>IVEQI<u>IYELI<u>ISDSANNI<u>ITHMROSEI<u>I</u></u></u></u></u></u></u>	(SEQ. ID. NO. 70)
human TCAP 2	COLL I <u>IISTGRI<u>IYQYDGYEVISI<u>IVEQI<u>IYELI<u>ISDSANNI<u>ITOFIRONEI<u>I</u></u></u></u></u></u></u>	(SEQ. ID. NO. 78)
human TCAP 3	OLISAGK I <u>IISTGRI<u>IYQYDGYEVISI<u>IVEQI<u>IYELI<u>ISDSANNI<u>ITOFIROSEI<u>I</u></u></u></u></u></u></u>	(SEQ. ID. NO. 85)
human TCAP 4	CO I <u>IOLISAGKI<u>IISTGRI<u>IYQYDGYEVISI<u>IVEQI<u>IYELI<u>ISDSANNI<u>ITHMROSEI<u>I</u></u></u></u></u></u></u></u>	(SEQ. ID. NO. 94)

FIGURE 8

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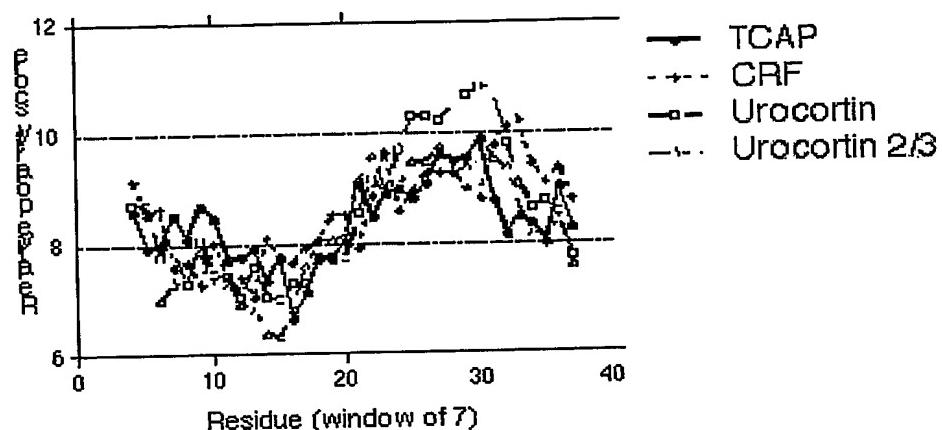
		SEQ ID NOS
Human CRF Paralogues		
human CRF	SEEPPELS LDLTTEHLLREVDEMARAEQIQQOAHSNRKIM EII	104
human urocortin	DNPSTIS LDITFHLLRTTLEHARTQSQRERAEQNRTS DSS	105
human urocortin 2	IIVLS LD SPIGLLQIEOARARAAREQATTNARE ARV	106
human urocortin 3	FTLS LD PPTNIMLNLYNAKAKNIRQAQAAAHLM AQI	107
Human TCAP Paralogues		
human TCAP 1	QNLSTGRLQGYDGYFVLSSEQYPLS DSANNNEHMRQSEI	70
human TCAP 2	QNLSTGRLQGYEGYIVLPSEQYPLA DSSSNNTDETRONEM	78
human TCAP 3	QNLSAKRLQGYDGYIVLSSEQYPLA DSANNNTDETRQSEI	85
human TCAP 4	QNLSTGRLQGYDGYFVLSSEQYPLS DSANNNEHMRQSEM	94

FIGURE 9

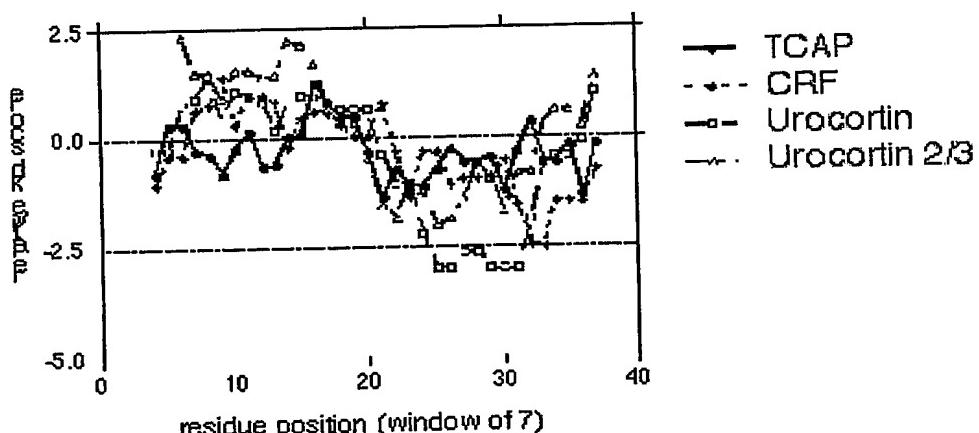
13/30

FIGURE 10

Grantham Polarity Prediction



Kyte-Doolittle Hydrophobicity Prediction



QLLS GRKV~~T~~GYDYYVLSIEQYE TAPS ANNQFETROSEI-NH₂
 QQLS TGRVQGYDGYFVLSIEQYE LDS ANNTHETROSEI-NH₂
 MGMP~~S~~LSIVNPMDFVRQR LIEIARRR LRDAEEQI KANKDELL QO1-NH₂
 TGAQ~~S~~LSIVAPLDVIRQR IMNELNRRR VRELOQSRIIQONRQL ESL-NH₂
 SPTISITAPIDVIR R~~T~~W~~E~~ERARKOMVA ONNREFL NSLN-OH
 RMPSLSIDLPMSVIRQK YMEKVA NANREFL NTE-NH₂
 SLSVNPDAVDLQHR LIEIARRR E~~R~~Q~~S~~QDOI C~~N~~REFL NRW-NH₂
 TGSGPS~~S~~SIVNPLDVLRQR EVIEMRAEQ EAQQ AHSNRK~~K~~ EII-NH₂
 SEEP~~P~~SSIDLTFHLR OM~~N~~EMRAEQ LOQQ AHSNRK~~K~~ EI~~E~~-NH₂
 SDDPP~~P~~SSIDLTFHLR T~~I~~ELARTOS QRER AENR~~R~~ DS~~S~~-NH₂
 DDPPL~~S~~SIDLT~~F~~HLR KMTETEKQEK EKQQ AANNRL~~I~~ DT~~T~~-NH₂
 QGPP~~P~~SSIDL~~S~~LEHLR NMTEMPARNEN OREQ AGINRK~~K~~ DE~~E~~-NH₂
 NDDPP~~P~~SSIDLTFHLR V~~I~~LSLDVPIGLR L~~E~~OARYKA ENQ PATN~~T~~ AH~~A~~-NH₂
 V~~I~~LSLDVPTN~~N~~ L~~T~~LSLDVPTN~~N~~ L~~E~~VAKAKN LRAK AENR~~R~~ AH~~A~~-NH₂
 ETLSLDVETN~~N~~ L~~T~~LSLDVETN~~N~~ L~~E~~NIAKAKN LRAQ AA~~A~~ AENR~~R~~ AQ~~E~~-NH₂

FIGURE 11

O. mykiss TCAP-3 (SEQ. ID. NO. 13)

R. danio TCAP-3 (SEQ. ID. NO. 22)

L. migratoria DP (SEQ. ID. NO. 108)

A. domesticus DP (SEQ. ID. NO. 109)

T. molitor DP (SEQ. ID. NO. 110)

M. sexta DP-I (SEQ. ID. NO. 111)

M. sexta DP-II (SEQ. ID. NO. 112)

P. Americana (SEQ. ID. NO. 113)

R. norvegicus CRF (SEQ. ID. NO. 104)

O. keta CRF (SEQ. ID. NO. 114)

R. norvegicus UCN (SEQ. ID. NO. 115)

P. sauvageii SVG (SEQ. ID. NO. 116)

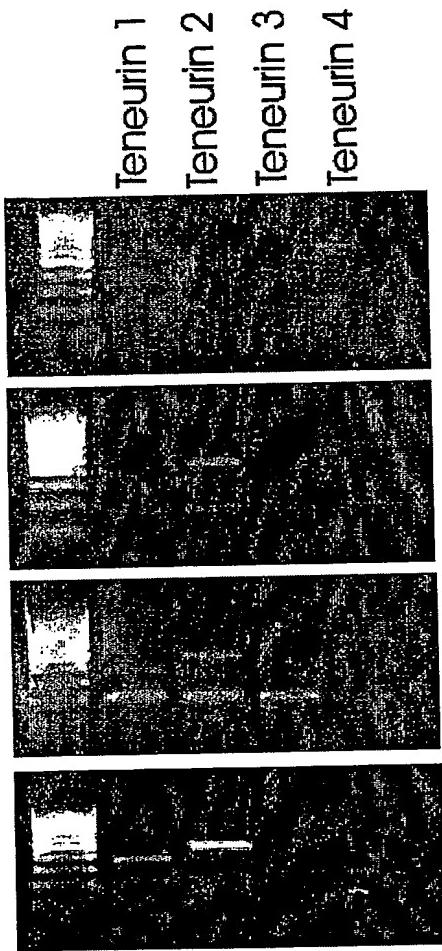
C. carpio UI (SEQ. ID. NO. 117)

M. musculus UCN2 (SEQ. ID. NO. 118)

R. danio UCN2 (SEQ. ID. NO. 119)

H. sapiens UCN3 (SEQ. ID. NO. 107)

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Figure 12

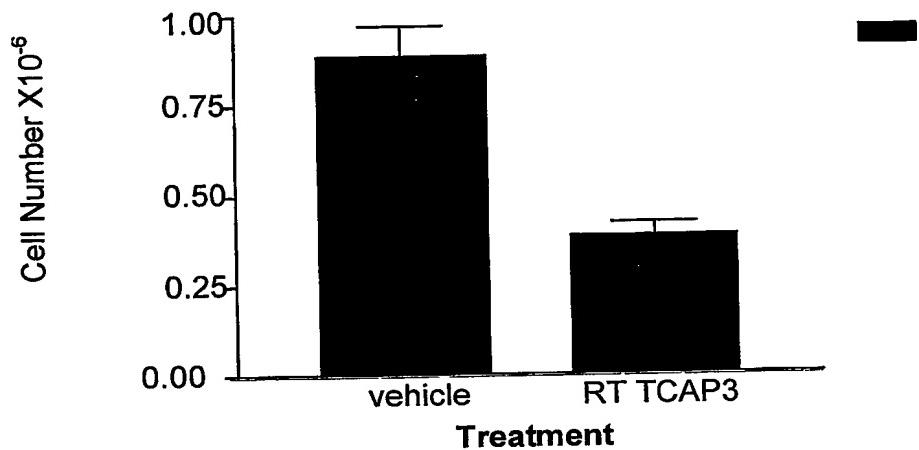
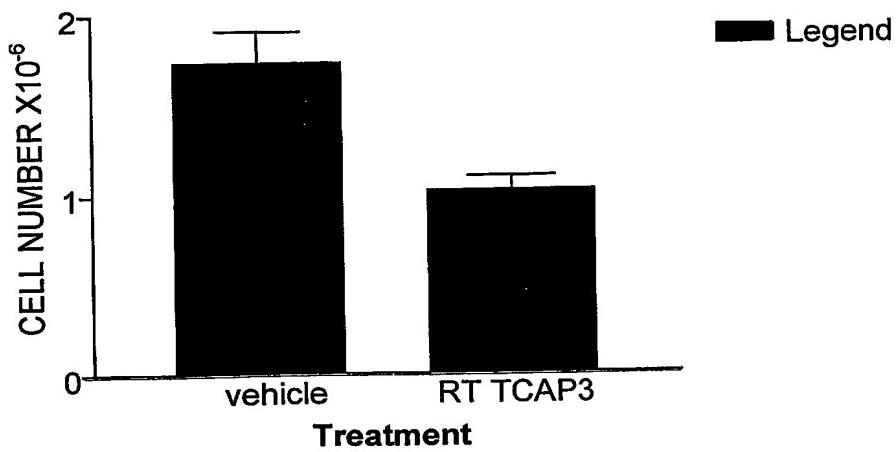
Whole Mouse Brain

NLT immortalized neurons

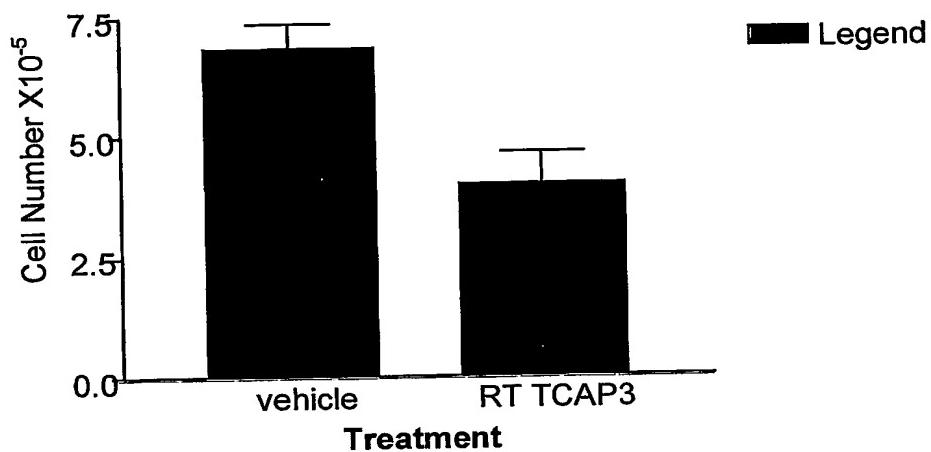
Gn11 immortalized neurons

Neuro2a neuroblastoma cells

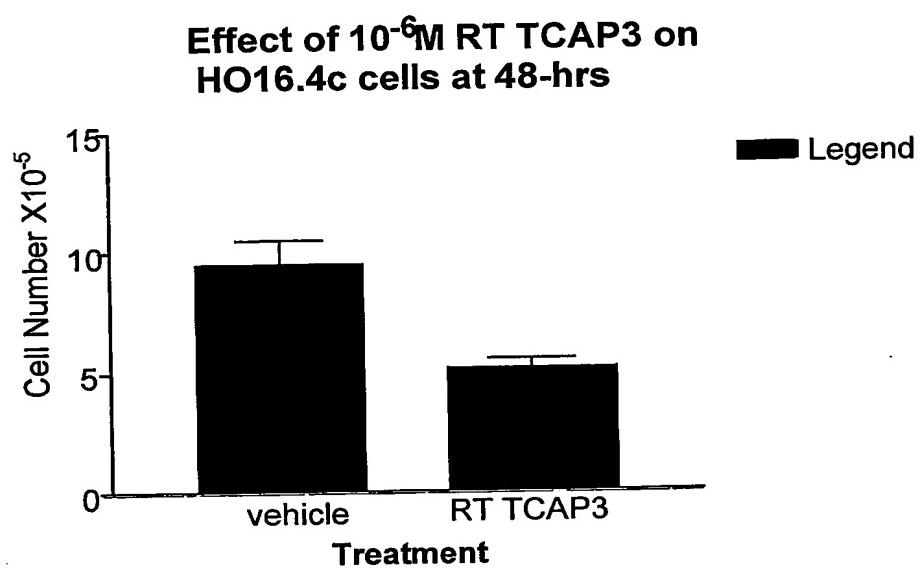
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FIGURE 13**Effect of 10^{-6} M RT TCAP3 on Gn11
cells at 48-hrs****Effect of 10^{-6} M RT TCAP3 on Gn11
cells at 72-hrs**

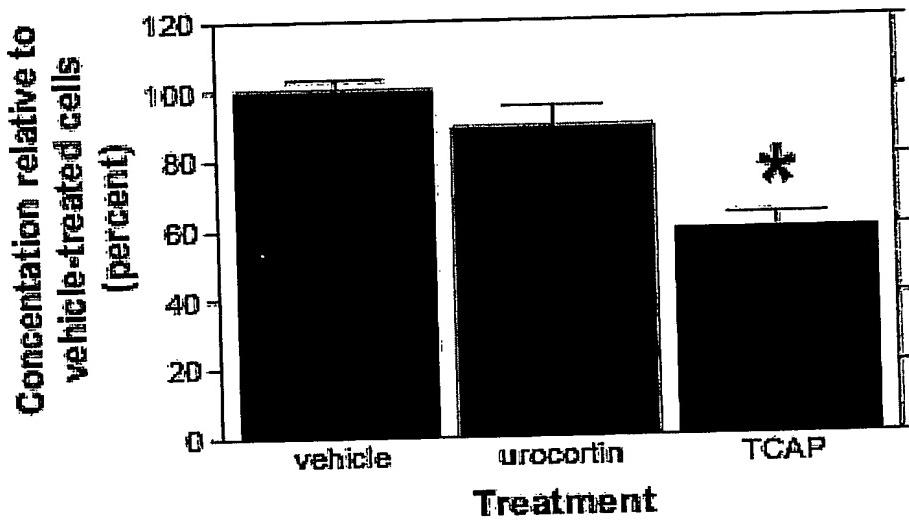
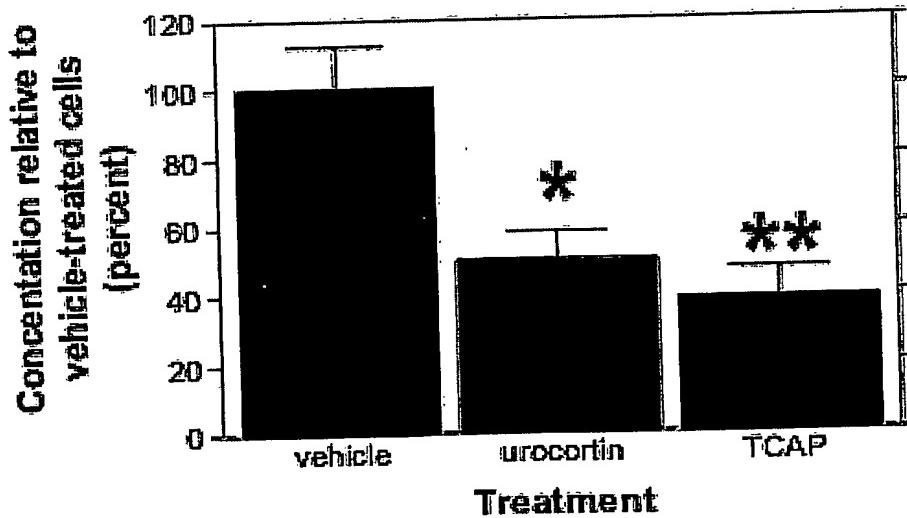
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FIGURE 14**Effect of 10^{-6} M RT TCAP3 on TGR1
cells at 48-hrs**

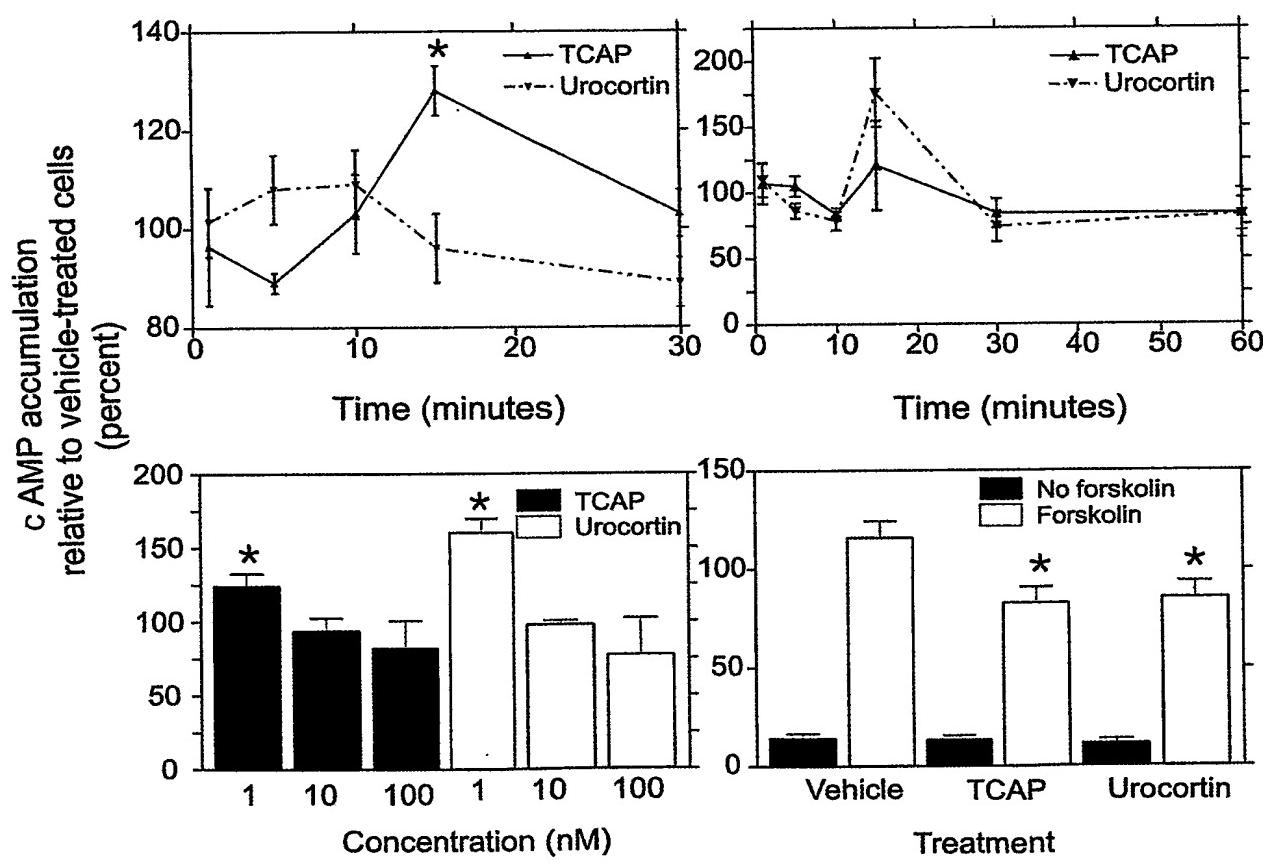
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FIGURE 15

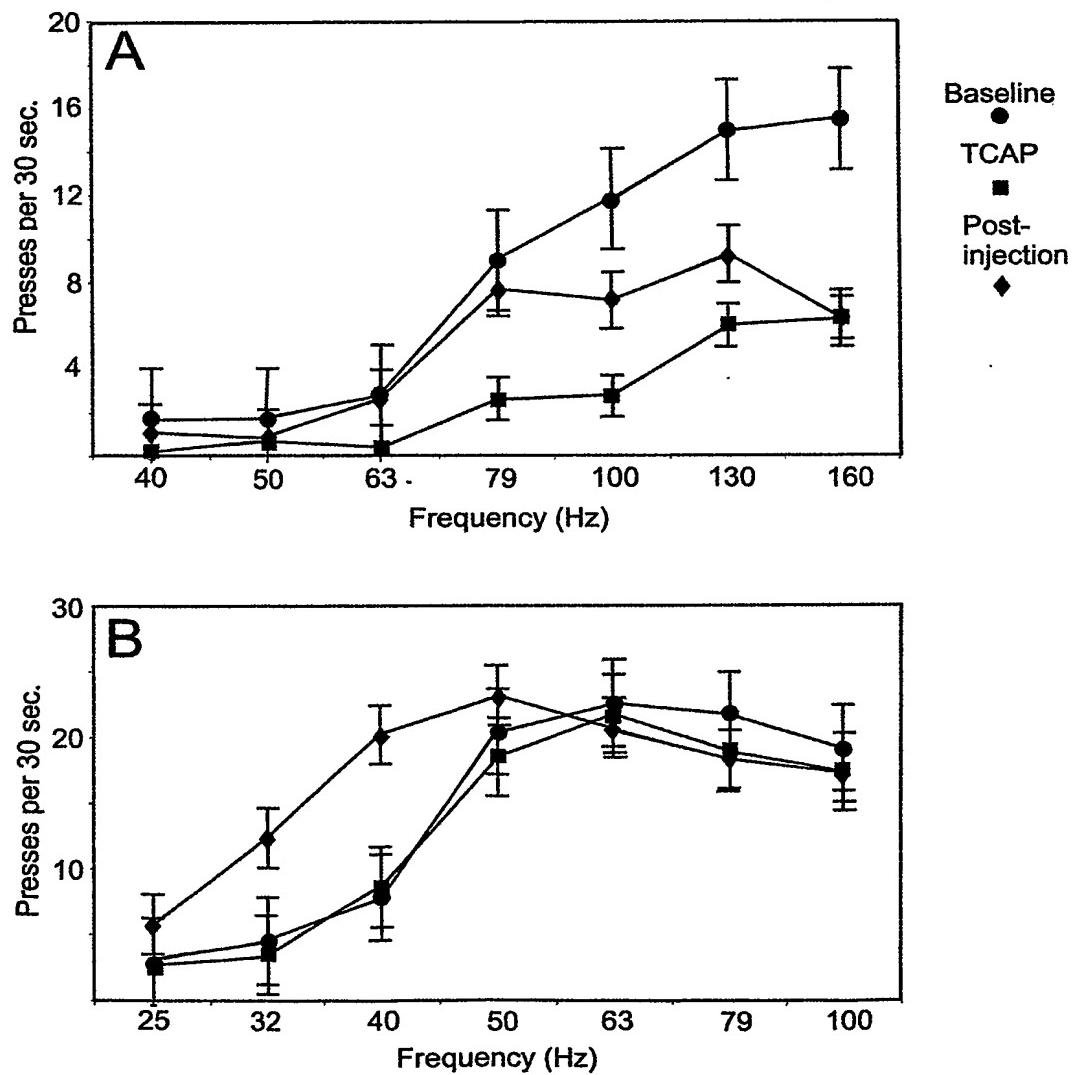
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FIGURE 16**A cAMP****B cGMP**

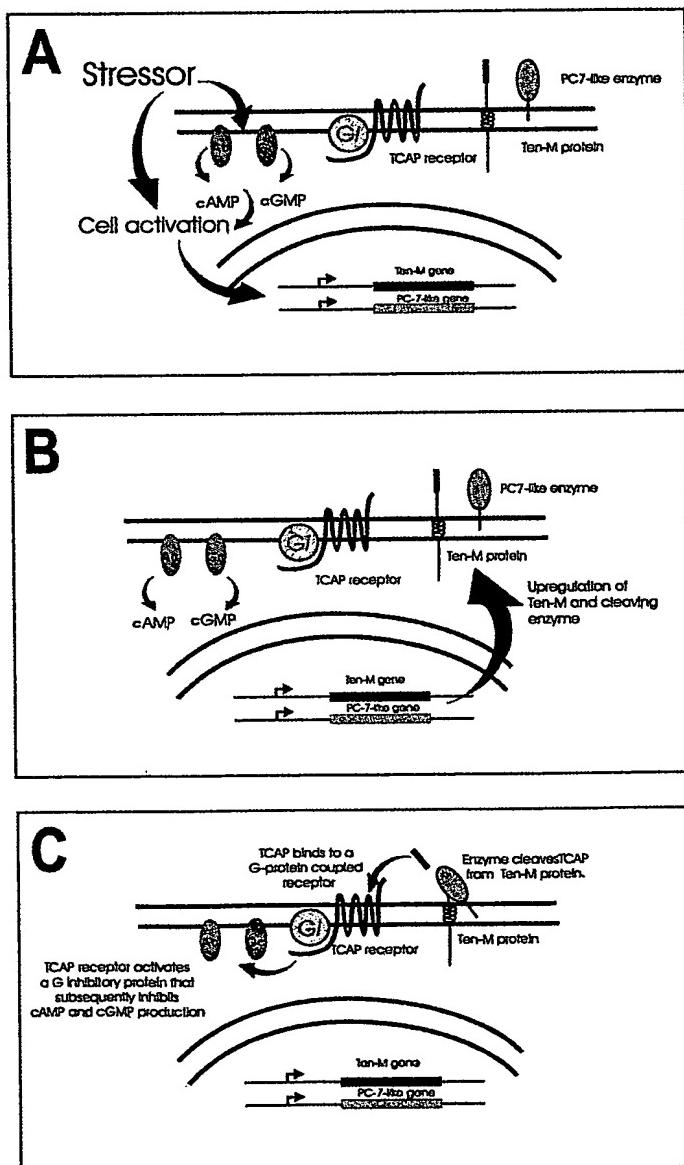
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FIGURE 17

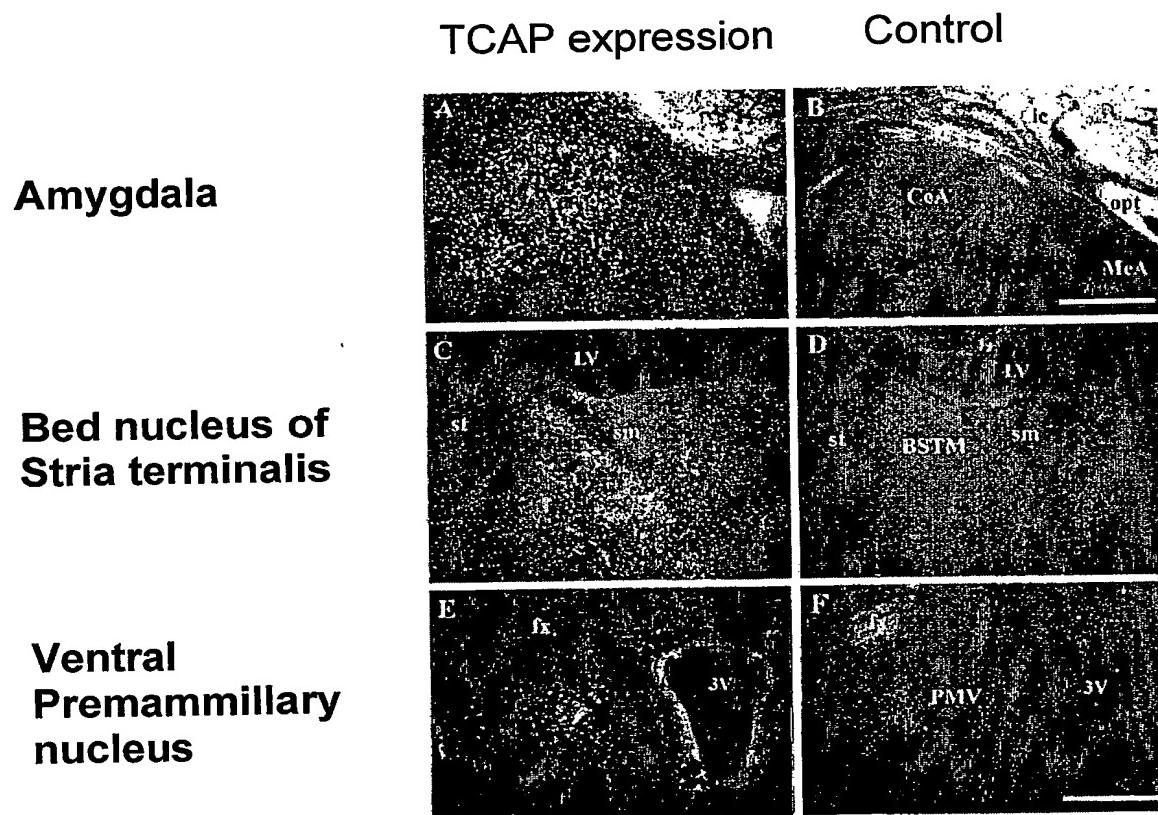
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FIGURE 18

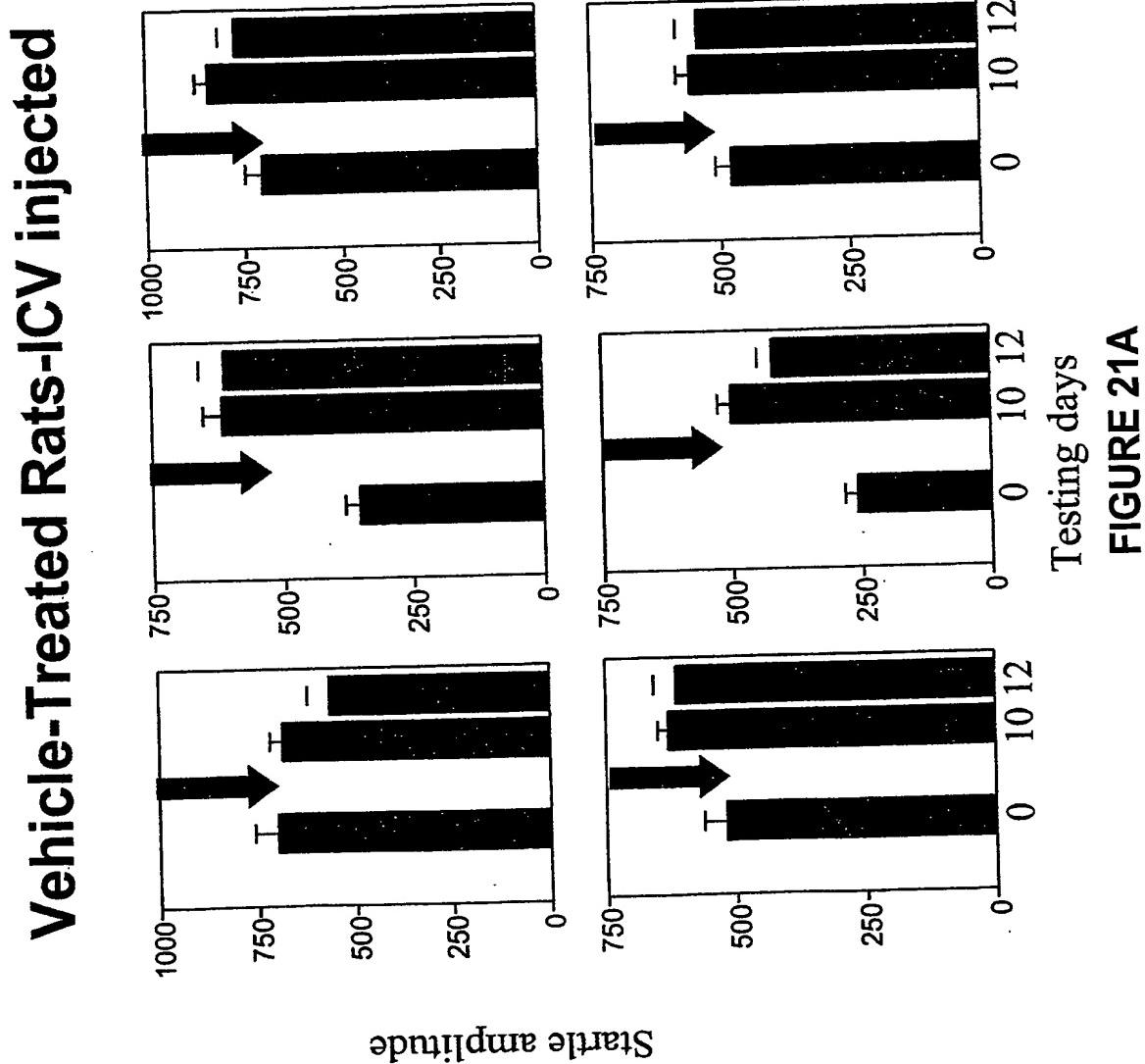
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FIGURE 19

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FIGURE 20**In Situ Hybridization**

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TCAP-1 Treated Rats-ICV injected

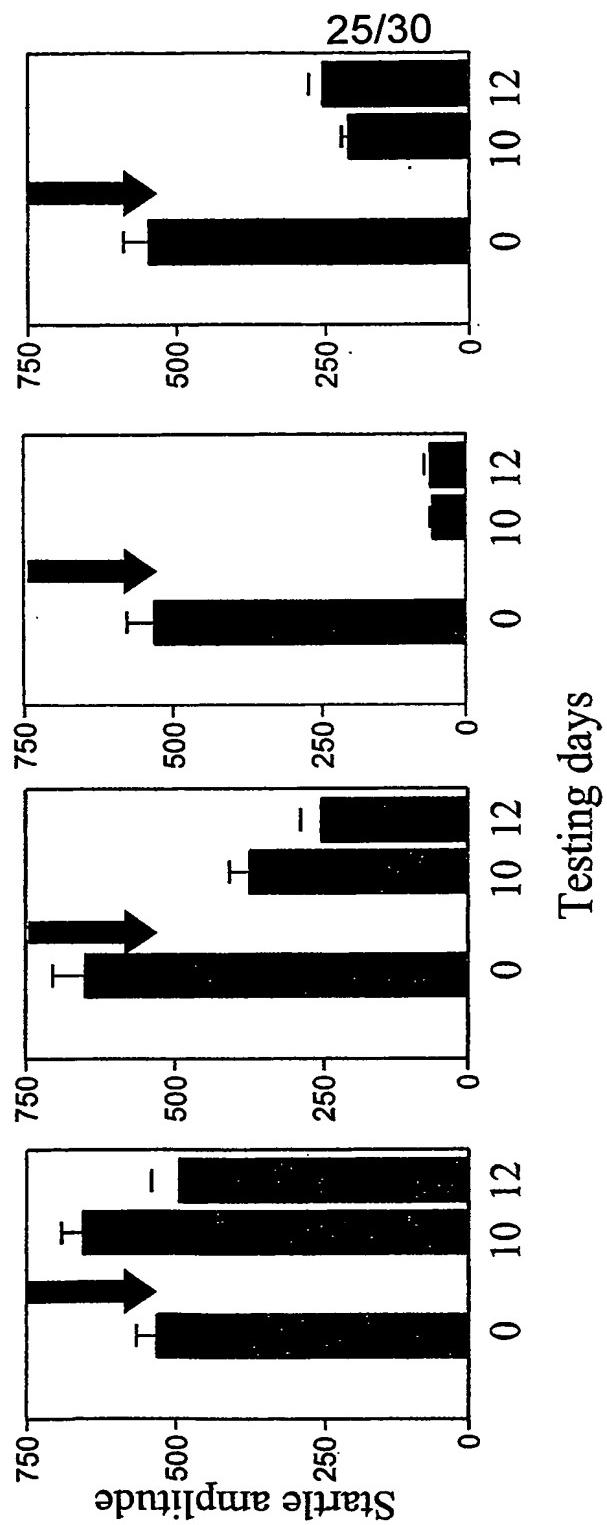
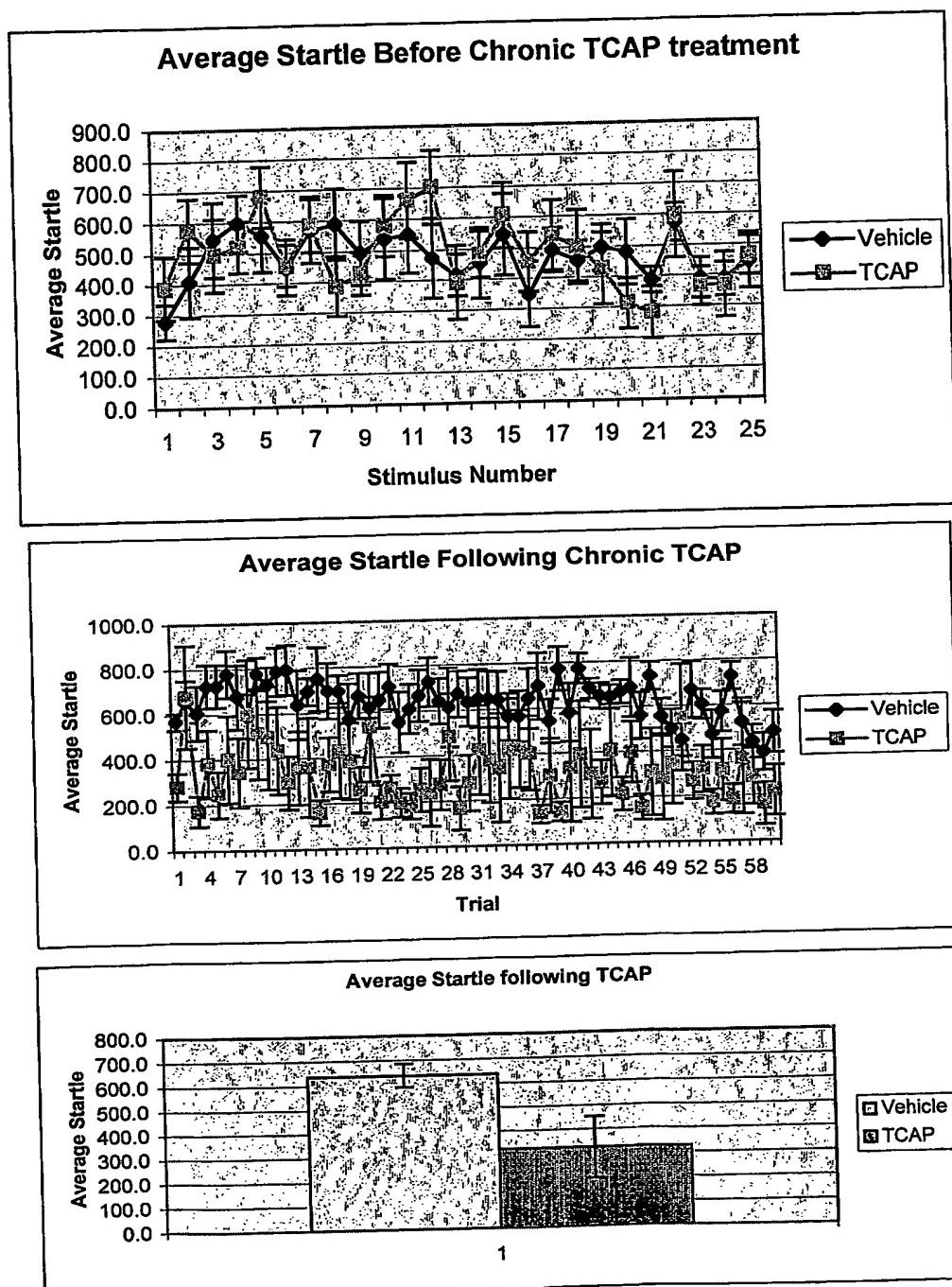
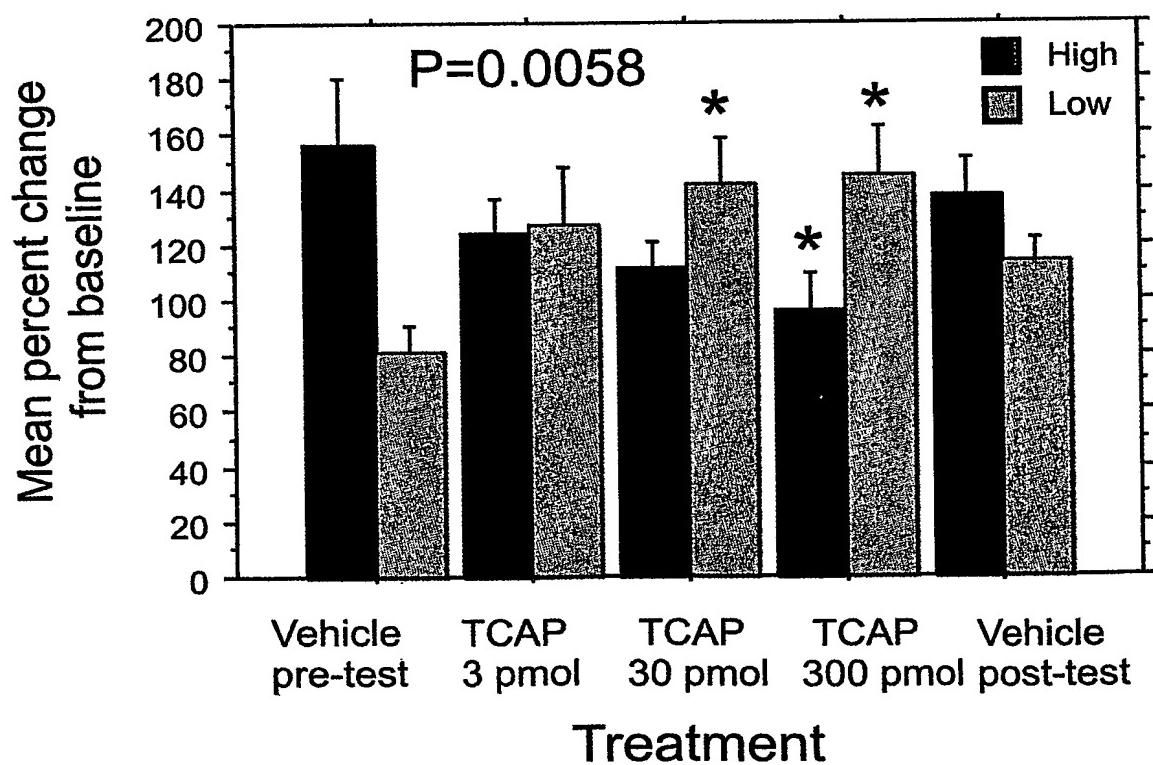


FIGURE 21B

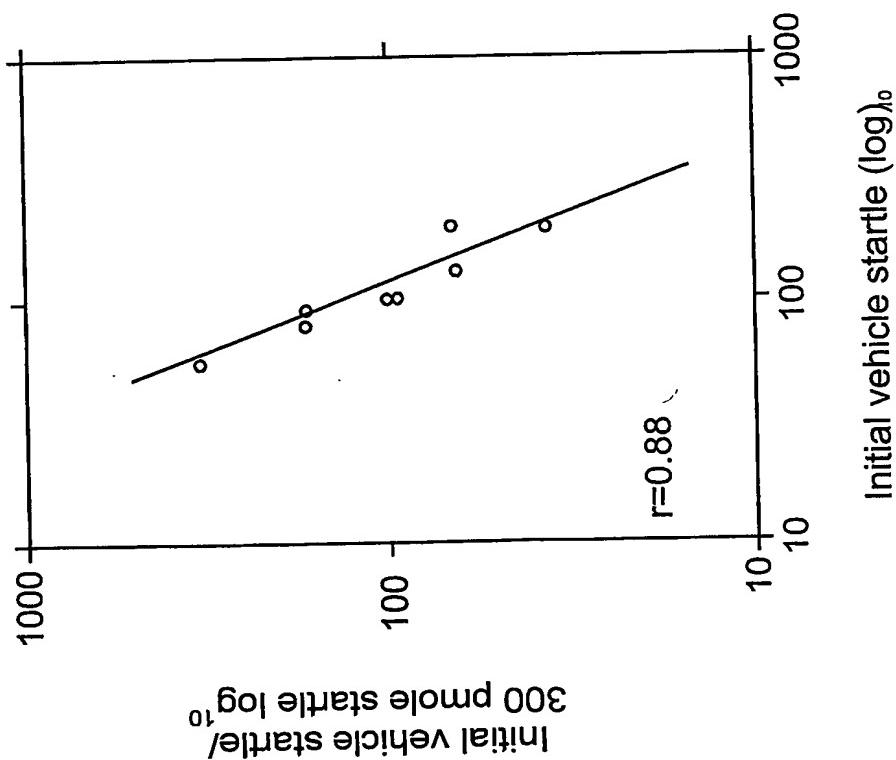
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FIGURE 22

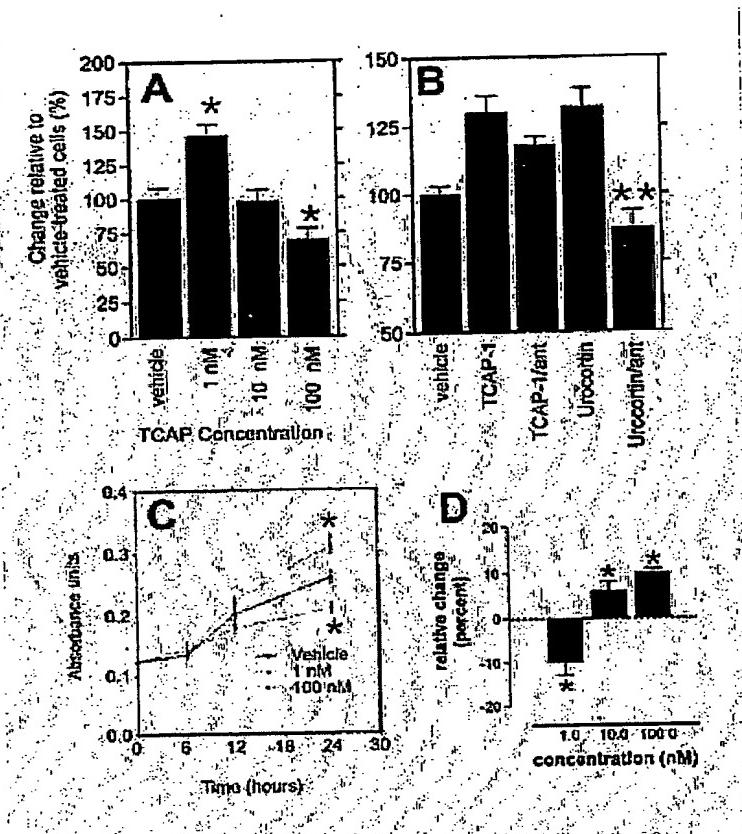
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FIGURE 23

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FIGURE 24**Summary of amygdala-injected TCAP-1**

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FIGURE 25

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FIGURE 26